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=> d his

     (FILE 'HOME' ENTERED AT 15:15:19 ON 05 JAN 2006)

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L11       56308 S L10

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L14             STRUCTURE UPLOADED
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L18             STRUCTURE UPLOADED
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L20             STRUCTURE UPLOADED
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     FILE 'CAPLUS' ENTERED AT 15:38:20 ON 05 JAN 2006
L23          10 S L22

=> d bib abs hitstr 1-10

L23  ANSWER 1 OF 10  CAPLUS  COPYRIGHT 2006 ACS on STN
AN   2005:349014  CAPLUS
DN   142:404267
TI   Method and composition for treating osteoporosis with osteoclastogenesis
     inhibiting amino acid or dicarboxylic acid derivatives
IN   Rao, Kanury Venkata Subba; Wani, Mohan Ramachandran; Manivel, Venkatasamy;
     Subrayan, Parameswaran Perunninakulath; Singh, Vinod Kumar; Anand,
     Ramasamy Vijaya; Desa, Ehrlich; Mishra, Gyan Chandra; Chatterji, Anil
PA   Council of Scientific & Industrial Research, India
SO   U.S. Pat. Appl. Publ., 33 pp.
     CODEN: USXXCO
DT   Patent
LA   English
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.          DATE
     ---------------     ----   --------    --------------------     --------
PI   US 2005085537        A1    20050421    US 2003-747671           20031230
     US 2005085546        A1    20050421    US 2003-748843           20031231
     US 2005085547        A1    20050421    US 2003-748844           20031231
     WO 2005037774        A1    20050428    WO 2003-IN431            20031231
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE,
             GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK,
             LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ,
             OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
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WO 2005037775 A1 20050428 WO 2003-IN432 20031231
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

WO 2005037776 A1 20050428 WO 2003-IN476 20031231
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
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PRAI US 2003-512183P P 20031020

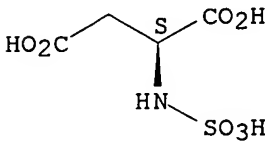
OS MARPAT 142:404267

AB This invention relates to a novel class of acidic amino acid/dicarboxylic acid derivs. (sulfonic acid/sulfate derivs. of naturally occurring amino acids and their amides) useful as inhibitors of osteoclastogenesis. The invention also provides methods of using the novel class of acidic amino acid/dicarboxylic acid derivs. of the general formula ZOC-(CRR)m-COOH, wherein: m = 2, 3, 4; Z = OH or NH2; one R in the compound is from the group consisting of SO3H, OSO3H, CH2-SO3H, CH2-OSO3H, and NHSO3H, and the remaining Rs are H or NH2, for inhibition of osteoclastogenesis. The calcium salt of L-glutamyl-N-sulfonic acid (preparation given), at 5.0 μg/mL, inhibited osteoclast formation by 97.94%.

IT **100466-76-0P 850208-21-8P**
RL: BSU (Biological study, unclassified); PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(osteoclastogenesis-inhibiting amino acid or dicarboxylic acid derivs. for treatment of osteoporosis)

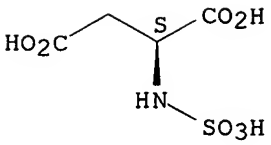
RN 100466-76-0 CAPLUS
CN L-Aspartic acid, N-sulfo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 850208-21-8 CAPLUS
CN L-Aspartic acid, N-sulfo-, calcium salt (1:1) (9CI) (CA INDEX NAME)

Absolute stereochemistry.

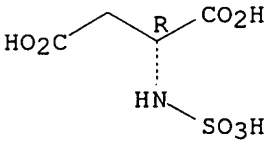


● Ca

IT **100466-77-1 850206-49-4 850206-50-7**
850206-52-9 850206-53-0 850206-54-1
850206-56-3 850206-62-1 850206-63-2
850206-64-3 850206-66-5 850206-73-4
850206-74-5 850206-75-6 850206-77-8
RL: BSU (Biological study, unclassified); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(osteoclastogenesis-inhibiting amino acid or dicarboxylic acid derivs. for treatment of osteoporosis)

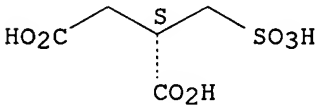
RN 100466-77-1 CAPLUS
CN D-Aspartic acid, N-sulfo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



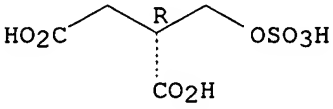
RN 850206-49-4 CAPLUS
CN Butanedioic acid, (sulfomethyl)-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



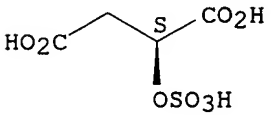
RN 850206-50-7 CAPLUS
CN Butanedioic acid, [(sulfooxy)methyl]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



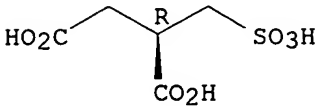
RN 850206-52-9 CAPLUS
CN Butanedioic acid, (sulfooxy)-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



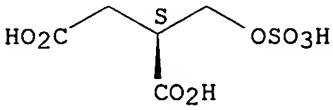
RN 850206-53-0 CAPLUS
CN Butanedioic acid, (sulfomethyl)-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



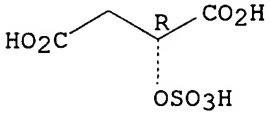
RN 850206-54-1 CAPLUS
CN Butanedioic acid, [(sulfooxy)methyl]-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



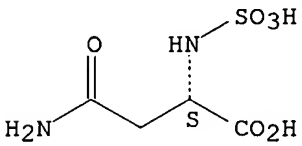
RN 850206-56-3 CAPLUS
CN Butanedioic acid, (sulfooxy)-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



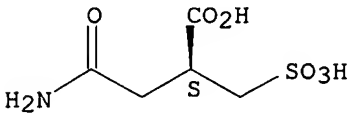
RN 850206-62-1 CAPLUS
CN L-Asparagine, N2-sulfo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



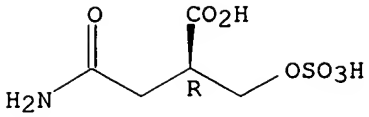
RN 850206-63-2 CAPLUS
CN Butanoic acid, 4-amino-4-oxo-2-(sulfomethyl)-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



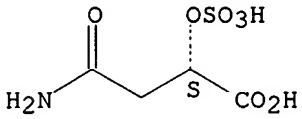
RN 850206-64-3 CAPLUS
CN Butanoic acid, 4-amino-4-oxo-2-[(sulfooxy)methyl]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



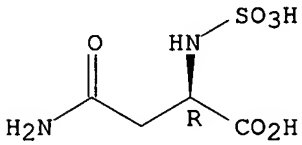
RN 850206-66-5 CAPLUS
CN Butanoic acid, 4-amino-4-oxo-2-(sulfooxy)-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



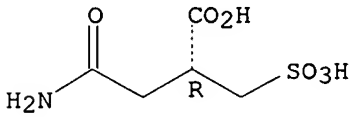
RN 850206-73-4 CAPLUS
CN D-Asparagine, N2-sulfo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



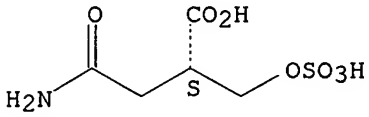
RN 850206-74-5 CAPLUS
CN Butanoic acid, 4-amino-4-oxo-2-(sulfomethyl)-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



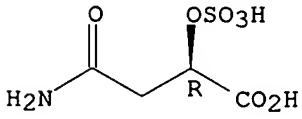
RN 850206-75-6 CAPLUS
CN Butanoic acid, 4-amino-4-oxo-2-[(sulfooxy)methyl]-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 850206-77-8 CAPLUS
CN Butanoic acid, 4-amino-4-oxo-2-(sulfooxy)-, (2R)- (9CI) (CA INDEX NAME)

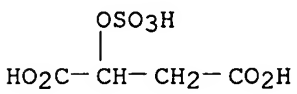
Absolute stereochemistry.



L23 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2002:931764 CAPLUS
DN 137:389025
TI Foamy cosmetic cream containing fibers and surfactants
IN Guiramand, Carole; Hurel, Valerie
PA L'oreal, Fr.
SO Fr. Demande, 24 pp.
CODEN: FRXXBL
DT Patent
LA French
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2824265	A1	20021108	FR 2001-5927	20010503
	JP 2003026564	A2	20030129	JP 2002-129209	20020430
	US 2003024556	A1	20030206	US 2002-137353	20020503
PRAI	FR 2001-5927	A	20010503		

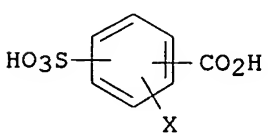
AB Foamy cosmetic cream containing fibers and surfactants with good phys. stability at 45° are used for removing makeups and cleaning hair. Formulation of two cosmetic creams containing 2% cocoacyl glucoside and 5% polyamide fibers are disclosed.
IT **176772-91-1D**, salts
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
(foamy cosmetic cream containing fibers and surfactants)
RN 176772-91-1 CAPLUS
CN Butanedioic acid, (sulfooxy)- (9CI) (CA INDEX NAME)



L23 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1998:402944 CAPLUS
DN 129:87332
TI Tin-zinc alloy electroplating bath containing sulfo(hydroxy)carboxylic derivative as complexing agent
IN Takeuchi, Takao; Kato, Hiroji; Obata, Keigo; Masaki, Seiji; Aoki, Kazuhiro; Nawafune, Hidemi
PA Daiwa Kasei Kenkyusho K. K., Japan; Ishihara Yakuhin Co., Ltd.; Daiwa Fine Chemical Co., Ltd.
SO Jpn. Kokai Tokkyo Koho, 18 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10168592	A2	19980623	JP 1996-342376	19961209
	JP 3609565	B2	20050112		
PRAI	JP 1996-342376		19961209		

OS MARPAT 129:87332
GI

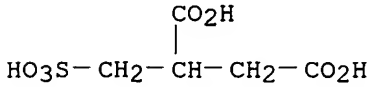


I

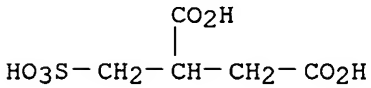
AB The electroplating bath contains Sn2+, Zn2+, and ≥1 complexing agent selected from (A) HO3HRCO2H or its salt, (B) aromatic sulfo(hydroxy)carboxylic acid I (X = H, OH, CO2H) or its salt, and (C) CH(OH)(CO2H)CHRCO2H (R = H, C1-2 alkyl). The plating bath gives Sn-Zn coatings with good solderability to be useful as an alternative to toxic Sn-Pb platings.

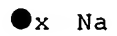
IT **42940-06-7 209345-36-8**, Sodium (sulfomethyl)succinate
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(Sn-Zn alloy electroplating bath containing sulfo(hydroxy)carboxylic derivative as complexing agent)

RN 42940-06-7 CAPLUS
CN Butanedioic acid, (sulfomethyl)- (9CI) (CA INDEX NAME)



RN 209345-36-8 CAPLUS
CN Butanedioic acid, (sulfomethyl)-, sodium salt (9CI) (CA INDEX NAME)





L23 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1996:303742 CAPLUS
DN 124:346590
TI Preparation of lactate diester sulfates useful as surfactants
IN Knuebel, Georg; Raths, Hans-Christian; Rueben, Rainer; Wangemann, Frank
PA Henkel KGaA, Germany
SO Ger. Offen., 6 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI DE 4432363	A1	19960314	DE 1994-4432363	19940912
PRAI DE 1994-4432363		19940912		

OS MARPAT 124:346590
AB The lactates R1O[CH2CH(R3)O]nCOCH(OSO3X)CH2CO[OCH2CH(R3)]mOR2 (R1, R2 = linear or branched C6-22 alkyl group containing 0-3 double bonds; R3 = H, Me; X = alkali or alkaline earth metal or quaternary ammonium group; n, m = 0-20) are prepared continuously by sulfating the corresponding malate diester and neutralizing with aqueous bases. Mixing 750 L/h dihexyl malate with 1.3 equivalent 65% oleum in an evaporator from which SO3 is removed by a stream of N (250 L/h) at 30° and neutralizing the resulting diester sulfate with 25% NaOH gave a product containing 34.6% solids, 31.2% active ingredient, 0.65% unsulfated diester, and 2.1% Na2SO4.

IT **176772-92-2P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material

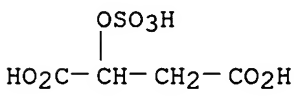
use); PREP (Preparation); USES (Uses)
(preparation of lactate diester sulfates useful as surfactants)

RN 176772-92-2 CAPLUS

CN Butanedioic acid, (sulfooxy)-, monodecyl monooctyl ester, sodium salt (9CI) (CA INDEX NAME)

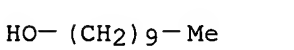
CM 1

CRN 176772-91-1
CMF C4 H6 O8 S



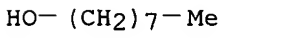
CM 2

CRN 112-30-1
CMF C10 H22 O



CM 3

CRN 111-87-5
CMF C8 H18 O



L23 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1986:144586 CAPLUS

DN 104:144586

TI Ligand interactions at the active site of aspartate transcarbamoylase from Escherichia coli

AU Dennis, Paul R.; Krishna, M. Vijaya; Di Gregorio, Maria; Chan, William W. C.

CS Med. Cent., McMaster Univ., Hamilton, ON, L8N 3Z5, Can.

SO Biochemistry (1986), 25(7), 1605-11
CODEN: BICHAW; ISSN: 0006-2960

DT Journal

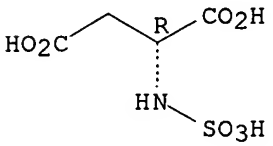
LA English

AB The active site of aspartate transcarbamoylase from E. coli was probed by studying the inhibitory effects of substrate analogs on the catalytic subunit of the enzyme. The inhibitors were chosen to satisfy the structural requirements for binding to either the phosphate or the dicarboxylate region. In addition, they also contained a side-chain that would extend into the normal position occupied by the carbamoyl group. All of the compds. tested showed competitive inhibition against carbamoyl phosphate. The ionic character of the side-chain was highly important in determining the affinity of the inhibitor. On the other hand, very little effect on binding was produced by changing the geometry of the functional group from trigonal to tetrahedral. The results suggested that the electrostatic stabilization of the neg. charge that develops in the transition state may be a major factor in promoting catalysis. From the

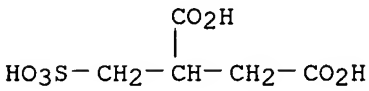
available x-ray diffraction data, histidine-134 was proposed as the residue most likely to participate in this interaction. These results have significant implications for the design of reversible and irreversible inhibitors of this enzyme.

IT **100466-77-1**
RL: BIOL (Biological study)
(aspartate transcarbamoylase of Escherichia coli inhibition by, kinetics of, structure-activity relations in)
RN 100466-77-1 CAPLUS
CN D-Aspartic acid, N-sulfo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

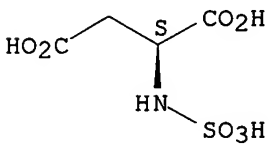


IT **42940-06-7P 100466-76-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and kinetics of aspartate transcarbamoylase of Escherichia coli inhibition by)
RN 42940-06-7 CAPLUS
CN Butanedioic acid, (sulfomethyl)- (9CI) (CA INDEX NAME)

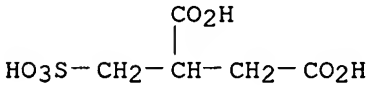


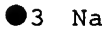
RN 100466-76-0 CAPLUS
CN L-Aspartic acid, N-sulfo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



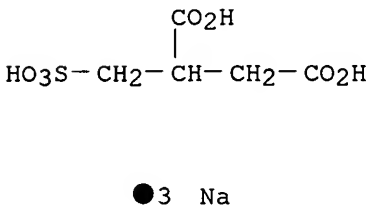
IT **54480-48-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 54480-48-7 CAPLUS
CN Butanedioic acid, (sulfomethyl)-, trisodium salt (9CI) (CA INDEX NAME)





L23 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1975:88040 CAPLUS
DN 82:88040
TI Effects of physicochemical properties of a detergent builder on the detergency
AU Murata, Moriyasu; Arai, Haruhiko
CS Household Goods Res. Lab., Kao Soap Co., Ltd., Tokyo, Japan
SO Nippon Kagaku Kaishi (1974), (9), 1724-30
CODEN: NKAKB8; ISSN: 0369-4577
DT Journal
LA Japanese
AB The relations between physicochem. properties of solns. of various organic compds. [as potential substitutes for Na tripolyphosphate (I) [7758-29-4]] and detergencies and physicochem. properties of detergents [Na linear alkylbenzenesulfonate 20, I or substitute builder 20, Na silicate 5, Na2CO3 3, Na2SO4 42, H2O 10%] were studied. The solubilization capacity, critical micelle concentration, pH, and dispersion capacity of detergent were not affected by the respective properties of builder, while calcium ion sequestration capacity and buffer index of detergent were linearly proportional to the respective properties of builder. The detergency (0.1% concentration 3.5° DH hard water) was proportional to calcium ion sequestration capacity linearly and to (buffer index)0.5 of builder, indicating that the physicochem. properties required for builders as replacements for I are calcium ion sequestration capacity and buffer index. The computer cluster anal. showed that the detergencies at various laundering conditions also related to calcium ion sequestration capacity and buffer index of builder and that chelating agents and polyelectrolytes were better replacements for I than polymeric nonelectrolytes and low mol. weight organic salts.
IT **54480-48-7**
RL: USES (Uses)
(detergent builders as substitutes for sodium tripolyphosphate, evaluation of)
RN 54480-48-7 CAPLUS
CN Butanedioic acid, (sulfomethyl)-, trisodium salt (9CI) (CA INDEX NAME)



●3 Na

L23 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1974:5178 CAPLUS
DN 80:5178
TI Cleanser
IN Arai, Haruhiko; Murata, Moriyasu; Ide, Kimie
PA Kao Soap Co., Ltd.
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

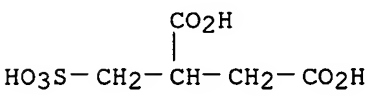
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 48045507	A2	19730629	JP 1971-80658	19711013
	JP 50018886	B4	19750702		
PRAI	JP 1971-80658	A	19711013		

AB The sequestering properties of a detergent solution containing 0.10% .geq.1 anionic surfactants, e.g. Na dodecyl sulfate [151-21-3], were improved by the addition of 0.1% builder, e.g. sulfoitaconic acid [CH2(SO3H)CH(CO2H)CH2CO2] [**42940-06-7**] alkali metal or ammonium salt cationic alkanolamine derivative

IT **42940-06-7D**, Butanedioic acid, (sulfomethyl)-, salts
RL: TEM (Technical or engineered material use); USES (Uses)
(detergent builders)

RN 42940-06-7 CAPLUS

CN Butanedioic acid, (sulfomethyl)- (9CI) (CA INDEX NAME)



L23 ANSWER 8 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1973:406946 CAPLUS

DN 79:6946

TI Ethylenically unsaturated homo- and copolymers

IN Emmons, William David; Swift, Graham

PA Rohm and Haas Co.

SO Ger. Offen., 43 pp.
CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2211936	A1	19730315	DE 1972-2211936	19720311
	US 3770801	A	19731106	US 1971-134905	19710416
	CA 946541	A1	19740430	CA 1972-136415	19720307
	JP 52039424	B4	19771005	JP 1972-25854	19720315
	BE 782042	A1	19721013	BE 1972-116262	19720413
	FR 2136371	A5	19721222	FR 1972-12952	19720413
	ZA 7202481	A	19730530	ZA 1972-2481	19720413
	IT 951381	A	19730630	IT 1972-23106	19720413
	DD 99806	C	19730820	DD 1972-162278	19720413
	NL 7205107	A	19721018	NL 1972-5107	19720414
	CH 552573	A	19740815	CH 1972-5515	19720414
	GB 1395762	A	19750529	GB 1972-17367	19720414
	SU 474976	D	19750625	SU 1972-1778551	19720414
	PL 84490	P	19760430	PL 1972-154733	19720414
	IL 39223	A1	19760531	IL 1972-39223	19720414
	CS 188124	P	19790228	CS 1972-2548	19720414
	SE 406909	C	19790614	SE 1972-4958	19720414
	SE 406909	B	19790305		
	ES 402700	A1	19751016	ES 1972-402700	19720415
	US 4131736	A	19781226	US 1972-273886	19720807
	CA 978996	A2	19751202	CA 1974-190393	19740117
	SE 7504276	A	19750414	SE 1975-4276	19750414
	SE 411553	C	19800424		
	US 4143020	A	19790306	US 1978-882521	19780223
PRAI	US 1971-134905	A	19710416		
	CA 1972-136415	A3	19720307		
	US 1972-273886	A3	19720807		

AB Acryloyl- and methacryloyloxyalkyl esters of monosulfonated C3-8 aliphatic and aromatic acids were prepared and copolymd. with acrylic monomers to give organic solvent- or water-dispersible coating resins. Thus, 4-sulfophthalic anhydride and 2-hydroxypropyl methacrylate were heated to give methacryloyloxyisopropyl hydrogen sulfophthalate [40139-96-6], which was

used to prepare 99:1 Me methacrylate-methacryloyloxyisopropyl hydrogen sulfophthalate copolymer [37372-56-8] using azodiisobutyronitrile in PhMe. The copolymer was used as a clear topcoat over acrylic-melamine resin-primed metals.

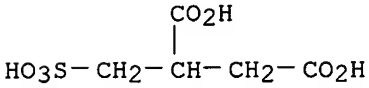
IT **42016-05-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 42016-05-7 CAPLUS

CN Butanedioic acid, (sulfomethyl)-, C-[1-methyl-2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl] ester (9CI) (CA INDEX NAME)

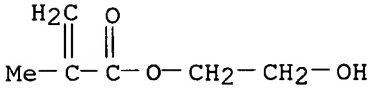
CM 1

CRN 42940-06-7
CMF C5 H8 O7 S



CM 2

CRN 868-77-9
CMF C6 H10 O3



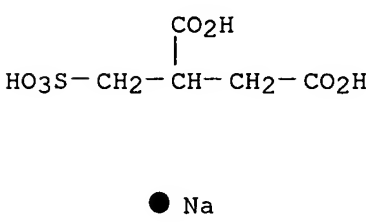
L23 ANSWER 9 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1959:41449 CAPLUS
DN 53:41449
OREF 53:7461i,7462a-b
TI Synthesis of surface-active agent and ion-exchange resin from itaconic acid
AU Akashi, Hiroyoshi
CS Kobe Univ.
SO Kogyo Kagaku Zasshi (1957), 60, 505-7
CODEN: KGKZA7; ISSN: 0368-5462
DT Journal
LA Unavailable
AB Itaconic acid (I) (13 g.), m. 166-7°, was boiled 5 hrs. with 13 g. Na2SO3 in H2O, neutralized with H2SO4, evaporated, and extracted with EtOH to give 17 g. Na sulfomethylsuccinate (II), decomposing at 262-4°. Reaction of 10 g. II and octyl alc. in 70 g. toluene and 5 g. concentrated H2SO4 gave 17 g. Na dioctyl sulfomethylsuccinate (III), softening at 155-60°, purified by EtOH (86.7% yield). III was also obtained by the reaction of 20 g. dioctyl itaconate and 8 g. Na2SO3 in H2O solvent at 85-90° in 85.4% yield. A 0.5% aqueous solution of III showed surface tension of 23.4 dynes/cm. at 25°. Na dibutylsulfomethyl succinate, softening at 195-200°, and Na didodecylsulfomethylsuccinate, softening at 128-33°, had a surface tension of 0.5% solution of 62.9 and 46.7 dynes/cm., resp. The melted I was treated with 10 mole % divinylbenzene with addition of Bz2O2 (4 mole % I) at 110-20° for 3 hrs., giving a yellowish resin which has an exchange capacity of 7.35 millimole Na/g. resin. Pearl polymerization gave a similar resin but its exchange

capacity was lower.

IT **860222-53-3**, Succinic acid, sulfomethyl-, Na salt
(esters, preparation from itaconic acid, ion exchangers and surfactants from)

RN 860222-53-3 CAPLUS

CN Succinic acid, sulfomethyl-, Na salt (6CI) (CA INDEX NAME)



● Na

L23 ANSWER 10 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1932:49146 CAPLUS

DN 26:49146

OREF 26:5069i,5070a-g

TI The sulfonation of amino acids, polypeptides and diketopiperazines. II

AU Baumgarten, Paul; Marggraff, Ilse; Dammann, Else

SO Z. physiol. Chem. (1932), 209, 145-65

DT Journal

LA Unavailable

AB cf. C. A. 22, 387. Sulfonation of the NH2 group of amino acids is readily accomplished in cold, faintly alkaline aqueous solns. by means of N-pyridiniumsulfonic acid-a treatment so mild as to suggest possibilities of its application to a study of protein mols. without otherwise altering their structure. The individual amino acids were first subjected to the sulfonation treatment to determine which groups react. The treatment consists in adding N-pyridiniumsulfonic acid (prepared from pyridine and EtOSO2Cl) to an aqueous solution of the amino acid and K2CO3 at 10° with shaking or stirring. The K2SO4 is filtered off, the pyridine removed by Et2O extraction, and the sulfonation repeated. The filtrate is then exactly neutralized with AcOH, the K2SO4 precipitated by a little EtOH, and finally the K salt of the sulfonated amino acid precipitated by a larger quantity of EtOH. The SO3H group masks the basic properties of the NH2, and a monoamino-monocarboxylic acid thus becomes a dibasic acid, while a diamino acid, e. g., ornithine, takes on 2 SO3H groups and becomes tribasic. The guanidine group of arginine does not react, only the α-NH2; hence the CO2H does not become acidic. The heterocyclic NH of proline and histidine undergoes sulfonation, but not that of tryptophan. Both the NH2 and the OH of tyrosine undergo sulfonation, but only the NH2 of serine and the NH of hydroxyproline. Polypeptides behave similarly, only the free NH2, or also the phenolic OH of a tyrosine component, being sulfonated, while the peptide NH fails to react. In histidylhistidine the free NH2 and the NH of both imidazole rings react, but not the peptide NH. Many of the salts of sulfonated amino acids form mol. compds. with the unsulfonated amino acid, or with H2O, EtOH, AcOH or KOAc. For this reason their preparation often requires a 2nd sulfonation treatment. While the salts are stable, the free sulfonic acids readily decompose with liberation of H2SO4 and regeneration of the amino acid. In the peptide sulfonic acids this decomposition is accompanied by more or less cleavage of the CONH. The splitting off of H2SO4 is facilitated and rendered quant. by the presence of HNO2. The number of SO3H groups present in a sulfonated amino acid or peptide can then be determined gravimetrically as BaSO4, except in the case of cystine derivs. Alkali cleavage of sulfonated peptides breaks the CONH linkage and yields the sulfonated and unsulfonated components. The K salts of sulfonated

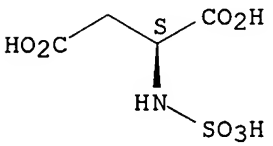
amino acids are very soluble in H2O and are hygroscopic, but difficultly soluble
K Cu and K Ag complex salts can be obtained. Diketopiperazines cannot be sulfonated in aqueous solution, but the N,N'-disulfonic acids can be obtained by
fusion with pyridiniumsulfonic acid and treatment of the resulting pyridinium salt with KHCO3. Alkali hydrolysis of the product yields the disulfonated dipeptide and finally the sulfonated amino acid. The following derivs. are described: N-glycinesulfonic acid (K salt, Na salt, Cu K salt, Ag K salt), N-alaninesulfonic acid (K salt), N-leucinesulfonic acid (K salt, Ag K salt, KOAc Cu salt), N-aspartic sulfonic acid (K salt + K aspartate, K salt + AcOH), N-glutamicsulfonic acid (K salt + K glutamate, K salt + AcOH), N-serinemonosulfonic acid (K salt + serine K salt, K salt), N-hydroxyprolinemonosulfonic acid (K salt), O, N-tyrosinedisulfonic acid (K3 + K2 salt), N,N'-cystinedisulfonic acid (K salt + AcOH), N-argininemonosulfonic acid (K salt + KOAc), N,N'-ornithinedisulfonic acid (K salt + AcOH), N,N'-histidinedisulfonic acid (K3 + H2 salt), N-prolinesullonic acid (K salt), N-tryotophanmonosulfonic acid (K salt). N-glycylglycinemonosulfonic acid (K salt), N-diglycylglycinemonosulfonic acid (K salt), N-leucylglycinemonosulfonic acid (K salt), N-glycylserinemonosulfonic acid (K salt + EtOH), O,N-glycyltyrosinedisulfonic acid (K salt + EtOH), N,N',N''-hislidylhislidinetrisulfonic acid (K salt), N,N'-diketopiperazinedisulfonic acid (pyridinium salt + EtOH, K salt, K salt + EtOH, Ba salt), N,N'-glycylglycinedisulfonic acid (K salt).

IT **100466-76-0**, Aspartic acid, N-sulfo-
(salts)

RN 100466-76-0 CAPLUS

CN L-Aspartic acid, N-sulfo- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



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